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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,328

11/24/2003

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PD-02W189

4312

7590

04/06/2006

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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,328

Applicant(s)

REEDER ET AL.

Examiner

Dung (Michael) T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 16-33, 35 and 40-46 is/are pending in the application.
- 4a) Of the above claim(s) 12-15, 34 and 36-39 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-24 and 33-46 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 29-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/24/03&12/19/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I including Claims 11, 17, 35, and 41 in the reply filed on 01/23/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because 1) the abstract exceeds 150 words in length and 2) the use of "means" on lines 3 and 5-7. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities:

- Page 11: line 13, the reference number "32" should be "34" and line 30, the reference number "53" should be "52".
- Page 12: line 3, the reference number "32" should be "34".

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- Page 13: line 23, the reference number “60” should be “58”.
- Page 14: line 5, the reference number “92” should be “90”; line 8, the reference number “92” should be “44”; line 11, the reference number “92” should be “94”; and line 16, the reference number “72” should be “70”.

Appropriate correction is required.

Claim Objections

Claim 2 is objected to because of the following informalities: it is not clear that “first means” is referred to a means for providing a collimated beam or a means for rotating said beam.

Claim 3 is objected to because of the following informalities: it is not clear that “second means” is referred to a means for providing a collimated beam or a means for rotating said beam.

Claim 24 is objected to because of the following informalities: on line 18, “**said** second reflector” should be “**a** second reflector”.

Claim 33 is objected to because of the following informalities: on line 6, “second reflector” should be “**the** second reflector”, on line 9, “**the** profile” should be “**a** profile”, and on lines 15-16, “the **said** beam rotator” should be “the beam rotator”.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizu (2003/0128732) in view of Tanuma (JP06037368).

With respect to claims 1 and 25, Ishizu shows in Fig. 1 an apparatus comprising:

a means (laser 3) for providing a beam of electromagnetic energy with a predetermined orientation with respect to a line of sight thereof, and

a means (porro prism 1) for rotating (paragraph 0034) said beam such that a transverse mode selection (paragraph 0036 discloses TEM mode which stands for transverse electromagnetic mode) (beam reflected from porro prism 1) therefor is the same (as interpreted by the examiner, "the same" here is "the same beam characteristic) for two orthogonal directions thereof (paragraph 0039) (one beam reflected back to Porro prism 2 and one beam out from polarizer 4).

However, Ishizu lacks a collimated beam.

Tanuma teaches a laser beam is collimated (Fig. 1 and see the English constitution section).

Ishizu and Tanuma are under the same analogous art of laser technology.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Ishuzi what is taught by Tanuma in order to be able to obtain a small size laser having a small beam divergence (meaning low loss) (see the English constitution section).

With respect to claims 2 and 26, Ishuzi shows in Fig.1 said first means (3) includes a slab laser (paragraph 0004, last line) having principal axes (paragraph 0032).

With respect to claims 3 and 27, Ishuzi shows in Fig.1 said second means (1) includes a porro prism (paragraph 0032).

With respect to claims 4 and 28, Ishuzi discloses said prism is rotated 45 degrees about the line of sight with respect to the slab axes (Fig.1 and paragraph 0043).

Election/Restrictions

Claims 9 and 33 are generic and allowable. Accordingly, the restriction requirement as to the encompassed species is hereby withdrawn and claims 12-15, 34, and 36-39, directed to the species of Group II-V no longer withdrawn from consideration since all of the claims to this species depend from or otherwise include each of the limitations of an allowed generic claim.

Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Allowable Subject Matter

Claims 5-8 and 29-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: Ishuzi and Tanuma prior art fail, taken singly or combined, to disclose the limitation of the beam is rotated through two successive round trip passes through said slab as recited in claims 5 and 29. Claims 6-8 and 30-32 are also found allowable due to their dependency of claims 5 and 29.

Claims 9 and 33 have been allowed over the Ishuzi and Tanuma prior art because they fail to teach the limitations of an aperture stop, an anamorphic telescope, and a beam rotator disposed between said anamorphic telescope and said second reflector operable to rotate the beam profile of said reshaped laser beam by 90 degrees after two passes.

Claims 10-23 and 34-46 have been found allowable due to their dependency on claims 9 and 33.

Claim 24 has been allowed over the Ishuzi and Tanuma prior art because they fail to teach the limitations of an anamorphic telescope, a half-wave plate positioned between said slab and a second reflector and aligned to compensate the polarization rotation caused by said porro prism; a polarization out-coupler aligned along the path of said laser beam; and an electro-optic

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switch positioned along the path of said laser beam and operable to rotate the polarization of said laser beam by 900 upon activation thereof, thereby causing said out-coupler to out-couple a portion of said laser beam from the laser resonator apparatus.

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung (Michael) T Nguyen whose telephone number is (571) 272-1949. The examiner can normally be reached on 9:00 - 19:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Harvey can be reached on (571) 272-1835. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 306-5511 for regular communications and (703) 306-5511 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

A handwritten signature in black ink, appearing to read "Michael Dung" followed by a stylized flourish.

Nguyen (Michael) Dung

04/03/06